

1. (Currently Amended) A method of matching a query fingerprint to a plurality of file fingerprints, the method comprising the steps of:

~~Determining~~ determining a plurality of partial features of each of the file fingerprints,

~~For~~ for each partial feature, deriving a list of all file fingerprints which have said partial feature as one of their partial features,

~~Determining~~ determining a plurality of query partial features of the query fingerprint,

~~Deriving~~ deriving a ranked list of the file fingerprints based on identifying the individual query partial features in the partial features of the respective file fingerprints, and

performing a one-to-one matching of the query fingerprint with selected ones of the ranked list of the file fingerprints.

2. (Currently Amended) A The method as claimed in claim 1, wherein the method comprises associating a discriminate score with each partial feature based on the number of file fingerprints which have said partial feature as one of their partial features, and the step of deriving the ranked list of the file fingerprints comprises updating scores for matches between the query fingerprint and individual ones of the file fingerprints based on the discriminate scores of one or more partial features identified in the individual file fingerprints as one of the query partial features.

3. (Currently Amended) A The method as claimed in claim 1, wherein the partial features comprise minutiae feature sets.

4. (Currently Amended) A The method as claimed in claim 3, wherein the minutiae feature sets each comprise a set of minutiae features for which a geometric separation between any two minutiae in it falls within a predetermined range.

5. (Currently Amended) A The method as claimed in ~~claims 3 or~~ claim 4, wherein a number of minutiae features in each minutiae feature set falls within a predetermined range.

6. (Currently Amended) A The method as claimed in claim 2, wherein the discriminate score is calculated in a manner such that it has higher values for partial features that occur in a smaller number of file fingerprints.

7. (Currently Amended) A The method as claimed in ~~claims 2 or~~ claim 6, wherein the discriminate scores are further based on a total number of partial features in all of the file fingerprints.

8. (Currently Amended) A system for matching a query fingerprint to a plurality of file fingerprints, the system comprising:

a database having stored ~~therein~~ data therein providing a plurality of partial features of each of the file fingerprints and for each partial feature a list of all file fingerprints which have said partial feature as one of their partial features,

a processing unit for determining a plurality of query partial features of the query fingerprint and for deriving ranked list of the file fingerprints based on identifying the individual query partial features in the partial features of the respective file fingerprints from the data stored in the database, and

a one-to-one fingerprint matching unit for performing one-to-one matching between the query fingerprint and selected ones of the ranked list of the file fingerprints derived by the processing unit.

9. (Currently Amended) A The system as claimed in claim 8, wherein the processing unit associates a discriminate score with each partial feature based on the number of file fingerprints which have said partial feature as one of their partial features, and updates scores for matches between the query fingerprint and individual ones of the file fingerprints based on the discriminate scores of one or more partial features identified in the individual file fingerprints as one of the query partial features during the deriving of the ranked list of the file fingerprints.

10. (Currently Amended) A ~~The~~ system as claimed in claim 8, wherein the partial features comprise minutiae feature sets.

11. (Currently Amended) A ~~The~~ system as claimed in claim 10, wherein the minutiae feature sets each comprise a set of minutiae features for which a geometric separation between any two minutiae in it falls within a predetermined range.

12. (Currently Amended) A ~~The~~ system as claimed in ~~claims 10 or~~ claim 11, wherein a number of minutiae features in each minutiae feature set falls within a predetermined range.

13. (Currently Amended) A ~~The~~ system as claimed in claim 9, wherein the processing unit calculates the discriminate scores in a manner such that it has higher values for partial features that occur in a smaller number of file fingerprints.

14. (Currently Amended) A ~~The~~ system as claimed in ~~claims 9 or~~ claim 13, wherein the processing unit further bases the discriminate score on a total number of partial features in all of the file fingerprints.

15. (Currently Amended) A computer program, recorded on a medium, for instructing a computer to conduct a method of matching a query fingerprint to a plurality of file fingerprints, the method comprising the steps of:

~~Determining~~ determining a plurality of partial features of each of the file fingerprints,

~~For~~ for each partial feature, deriving a list of all file fingerprints which have said partial feature as one of their partial features,

~~Determining~~ determining a plurality of query partial features of the query fingerprint,

~~Deriving~~ deriving a ranked list of the file fingerprints based on identifying the individual query partial features in the partial features of the respective file fingerprints, and

performing a one-to-one matching of the query fingerprint with selected ones of the ranked list of the file fingerprints.

16. (Currently Amended) A The computer program as claimed in claim 15, wherein the method comprises associating a discriminate score with each partial feature based on the number of file fingerprints which have said partial feature as one of their partial features, and the step of deriving the ranked list of the file fingerprints comprises updating scores for matches between the query fingerprint and individual ones of the file fingerprints based on the discriminate scores of one or more partial features identified in the individual file fingerprints as one of the query partial features.

17. (Currently Amended) A The computer program as claimed in claim 15, wherein the partial features comprise minutiae feature sets.

18. (Currently Amended) A The computer program as claimed in claim 17, wherein the minutiae feature sets each comprise a set of minutiae features for which a geometric separation between any two minutiae in it falls within a predetermined range.

19. (Currently Amended) A The computer program as claimed in ~~claims 17 or~~ claim 18, wherein a number of minutiae features in each minutiae feature set falls within a predetermined range.

20. (Currently Amended) A The computer program as claimed in claim 16, wherein the discriminate score is calculated in a manner such that it has higher values for partial features that occur in a smaller number of file fingerprints.

21. (Currently Amended) A The computer program as claimed in ~~claims 16 or~~ claim 20, wherein the discriminate scores are further based on a total number of partial features in all of the file fingerprints.

22. (Currently Amended) A method of maintaining a database of file fingerprints, the method comprising the steps of:

~~Determining~~ determining a plurality of partial features of each of the file fingerprints, and  
~~For~~ for each partial feature, deriving a list of all file fingerprints which have said partial feature as one of their partial features.

23. (Currently Amended) A The method as claimed in claim 22, wherein the method comprises associating a discriminate score with each partial feature based on the number of file fingerprints which have said partial feature as one of their partial features.